BELPER

Rural District Council.

Dr. E. GAYLOR'S

Thirtieth Annual Report

FROM

Jan. 1st, 1902, to Dec. 31st, 1902,

TO WHICH IS ADDED

The Report of the Inspector of Nuisances, Mr. Bould.

BELPER:
STEWART GIBSON, ALBION PRINTING WORKS, BELPER.

1903.

SANITARY REPORT FOR 1902.

BELPER RURAL DISTRICT A.

TO THE BELPER RURAL DISTRICT COUNCIL.

GENTLEMEN,

I now submit to you my THIRTIETH ANNUAL REPORT, dealing with the Vital Statistics of the District.

The resignation of Dr. Allen, of Ripley, caused an alteration in the old arrangements.

His District comprised 11 parishes, situate for the most part in the Eastern portion of the District, and was known as District B.

My own portion consisted of 19 parishes, situate mostly in the Western part of the District, and known as District A.

The Local Government Board had, some two years previously, given intimation that on the first vacancy they should only sanction one Medical Officer of Health for the whole District.

This Report (in consequence of that arrangement) is my First Annual Report dealing with the whole of the 30 parishes of the District.

The Census Population of the whole District was 22,477.

In estimating the Population up to the middle of the year 1902, I have of course been obliged to rely upon Dr. Allen's estimate up to December 31st, 1901, and I think we may now take the Population of the whole 30 parishes of the District to be 22,726.

In estimating the Population, I have not taken the excess of Births over Deaths as the guide, but have taken about *half the number*, and left the other *half* to account for the probable migration which takes place in small parishes year by year.

I think the estimate will prove a fair approximation to the actual number, which cannot be correctly ascertained.

In Table 1, which gives the Vital Statistics of the whole District since 1895, I have, of course, made use of Dr. Allen's calculation for *Eleven of the parishes*, up to 1901, and then added those of my own 19 parishes up to that time.

I have chosen the year 1895, because the District up to that time was subjected to very many changes, but since 1895 it has been intact as it is at this moment, hence, the calculations are based upon fairly reliable materials.

There has been a very slight increase in the Total number of Deaths from all causes, but as against that the number of Infections Diseases notified has been very considerably less.

The Total Deaths from all causes in 1901 were 287.

The Total Deaths for the year 1902 are 292.

The Notifications, under the Infectious Diseases Act in 1901 was 125, in 1902 only 65 cases were notified in the following months of the year :

January	9
February	8
March	2
April	2
May	2
June	3
July	1
August	2
September	4
October	6
November	15
December	11
Total ...	65

It will be seen that the Parishes of Denby, Horsley Woodhouse, Kilbourne, and Windley had the greatest number of Infectious Diseases, mainly Scarlet Fever.

I should say that the 30 Parishes comprising the Belper Rural District are in a fairly satisfactory condition considering the difficulty sanitarians have to deal with in strictly Rural Parishes.

Of course Water Supply, Scavenging, and Sewering have to be handled and carried out by degrees, and all three of these have been thoroughly discussed by the Council, and admitted to be necessary. Some are already in hand, and others are being investigated with a view to their adoption.

Small Pox. No case of this disease has occurred in the District in the year 1902.

Up to the last year or two the District might be said to be a well vaccinated area, and so far I have no doubt that has protected us from Small Pox.

I believe that when Small Pox is epidemic, and travelling about, it is much more likely to select an unvaccinated place, because it finds in such an area a soil admirably suited and prepared for its propagation,

whereas in a vaccinated area it finds no resting place, and even where some Anti-Vaccinationists exist, they owe their own personal immunity from the foul disease, simply because they are surrounded with the elements of protection by reason of their neighbours' vaccination.

There was something like a thousand vaccinations in the Belper Union District in 1901. This number, spread over so many Parishes, is very unsatisfactory, but I have no doubt it has its influence, and is, to a certain extent, protective.

I am tempted here to quote the words of the President of the Local Government Board to a Deputation who represented the Vaccination League. The President said :

"They had, at the Local Government Board, a constant and growing "experience of the advantages of Vaccination, and the only wonder they "felt at all was, that it was necessary, at this period of the world's "history, for a deputation like that to come there, in order to support "that which they in office believed ought to receive the unqualified "support of every intelligent person."

"He had no desire to be, or say anything offensive, to those who "did not believe in Vaccination, but he felt bound to say that the more "he had studied the question, the more difficult he found it to be, to "understand how anyone could fail to give a hearty support to one of "the greatest instruments of Preventive Medicine in the world."

"He said the L.G.B. would do nothing to lessen one of the greatest "benefits enjoyed by this country, *viz.—The general adoption throughout "the country of Vaccination as a preventative against one of the most "terrible of our diseases.*"

The latest official statistics of the Local Government Board as to Vaccination are carried down to the end of 1900. Of 923,659 children, 61 per cent. were successfully vaccinated, 12 per cent. died unvaccinated, and 26 per cent. were postponements, removals, and conscientious objectors.

As far as it can be ascertained, it appears the abstentions from Vaccination are at the rate of about 34 per cent. in London, and 25 per cent. in England and Wales.

Dr. Priestley, in his Report of the recent Small Pox epidemic in Lambeth, says the death rate among the vaccinated was 11 per cent. In the unvaccinated the death rate was 32 per cent.

I think the cost of Vaccination and Re-Vaccination should be paid for out of the Imperial Funds, because it is a measure which vitally concerns the whole community.

There would be no need for Small Pox Hospitals if the whole population were re-vaccinated.

On the other hand, *if there was an entire absence of Vaccination*

throughout the whole Country, Small Pox Hospitals would be quite useless to cope with the enormous number of cases of Small Pox which would always exist.

In the recent London epidemic *Nine Thousand* persons were attacked with Small Pox in 10 months; *Fifteen Hundred* died, and of the *Seven Thousand Five Hundred* who survived, a large portion of them will be disfigured for life, and not a few will be shattered in health and stunted in growth, and many have lost their eyesight and are totally blind.

Scarlet Fever. There were two cases of this disease at a house at Crich; a boy, 11 years of age, took the disease first, and the only possible history was, that he met the trains at Whatstandwell, and sold newspapers on his way back to Crich.

His mother was a widow with six children. He was removed to the Hospital, and about a month afterwards his sister, 9 years of age, took the disease, and she was also removed to the Hospital.

The house and surroundings were cleanly and satisfactory. The back premises were altered and made right in consequence of a Report from me two or three years previously.

Another Scarlet Fever case occurred at The Lillies, Windley, making the third case of the disease in the same house; yet every possible precaution was taken, as in the other cases, such as thorough disinfection and immediate removal to Hospital.

In this case it was the kitchen maid who was removed to Hospital.

Her bedroom was thoroughly disinfected, and walls and ceiling were well washed with Corrosive Sublimate. Bedding and carpets were disinfected at the Hospital Disinfector, and as an extra precaution, and with the intent of entirely stamping out the disease, the clothes worn by the groom who first took the disease (but who had been discharged from Hospital some weeks) were all burnt. He had been wearing them since his discharge from Hospital, as of course they had been passed through the steam disinfector, and should be perfectly free from infection, but as the history of Scarlet Fever in this present case was so obscure, it was decided to destroy the whole suit of clothes by fire.

A boy of 10 years took the disease at Bottle Brook, in the Parish of Denby. He was taken on the Wednesday, was removed to Hospital on Friday, and died there on the Sunday following. There had been another case in the same house about 8 weeks previously, and the house had been thoroughly disinfected, but I ascertained that the paper on the walls of the bedroom had been allowed to remain on, and probably still contained its infectious character.

A young woman, 20 years of age, took the disease at Horsley Woodhouse. There was no history, but Scarlet Fever was epidemic in the village in the latter part of 1901, so this was probably a remnant of it,

as the person had not been from home. There was no drinking water at this cottage, but nothing insanitary to account for the disease. The case was a mild one.

A boy, 5 years of age, took the disease at South Wingfield. He was strictly isolated and had not been from home, but attended school regularly. There was no other case of Scarlet Fever in the village, and nothing insanitary existed upon the premises.

A case occurred at Denby in a locality of two blocks of 12 houses each. I found the drains stopped up by the floods from a brook close to the back premises. The yards were strewn with loose ashes, and the storm overflow washed the *debris* up the drain pipes and blocked them.

Another case occurred at a dairy farm at Mugginton, and I think was traced to a servant lad, who came from Derby to reside at the farm. This case went to Hospital, and every precaution was taken with the milk trade.

Two cases of the disease occurred in the village of Denby, one at a cottage, and the other at a small farm house. No particular history could be obtained, and I think they were remnants of the previous epidemic a year or so before.

There was nothing flagrantly wrong at either place, but the noticeable feature was the great scarcity of drinking water.

The people here had to go long distances for a pailful of water. This fact makes it impossible for the cottagers to cleanse and flush their drains, and although that fact would not produce Scarlet Fever, yet it would very much promote its dissemination when the disease did make its appearance, because the soil and the atmosphere both become tainted and saturated with disease product, and a very fertile breeding ground is provided for this infectious class of disease.

Another case at the Denby Bottles could not be traced to any connection with those in the village, but here was ample evidence of the want of Sewerage and Water Supply. The water for drinking was obtained from Kilbourne Pit, situate just below. There was a cesspool in this garden for the slops, &c., of two houses. It was overflowing and saturating the path that led to the closets and to the coal place.

The atmosphere was disagreeable, as who would expect anything else. The soil in this locality is saturated with house slops and filth. The inhabitants explain they cannot always throw it on their gardens, but they pour it somewhere about their own curtilage, and there is an end of it so far as seeing it is concerned.

A case occurred at the Smithy Houses, which had a peculiar history. The house here had no back door, because the brook was close under the living room window. This brook is at times very much polluted from drainage above, and the inhabitants here tell me that in consequence of the scarcity of water they get a bucket of liquid out of this brook now

and then, when it is a little improved in quality, for cleaning purposes, and when they make it hot over the fire for that purpose, it fills the house with nasty odours, as I can well imagine, when it is considered what flows into this brook.

The case of Scarlet Fever I mentioned had this history. A child at Nottingham, related to the inmates of this house, had Scarlet Fever in the Summer, and after it got better its shoes got too small, and pinched the feet (*probably they were swollen*). At any rate they were sent to this house from Nottingham for this child, and after wearing them a week he was attacked with Scarlet Fever.

I have no doubt that these shoes where infected by the "peeling" off the other child's feet during convalescence. The feet, and especially the heels, are a very long time in "skinning" or "peeling" after Scarlet Fever, and it is the last portion of the body which becomes quite clear after having had the disease. The heels are always carefully examined before a patient can be discharged from a Fever Hospital. I have known it continue for nine or ten weeks after the patient in other respects has been quite well.

In this case, I believe, these shoes had been worn under similar conditions, and were highly infectious when sent from Nottingham, though of course with no knowledge of their danger of infection.

This shows how careful one should be, and how necessary it is that everything that has been in contact with the Scarlet Fever patient, however trivial it might appear, should be thoroughly disinfected, or subjected to boiling water, or burnt.

In another part of the Parish, at a farmhouse, a little girl was removed to Hospital. She went to Street Lane School, and there were other cases in that locality, and a sort of panic existed, though the disease was of the mildest type, and eventually I closed the Schools there.

In a house at Kilbourne Parish there were three cases of Scarlet Fever. All of them attended a school at Belper where Scarlet Fever was prevalent at the time. They were all isolated in a room at the Cottage, and got on very well.

Three Scarlet Fever cases occurred at a farmhouse at Farnah Green, at a house situate in the Parish of Milford. This locality, known as Farnah Green, has houses in the Parishes of Milford, Duffield, and Hazlewood.

A boy, 15 years of age, went to school at Belper, and his sister, 14 years of age, had left school and lived at home.

As far as it could be made out, I think the boy had the disease first and his sister took it from him. Both had the disease in a very mild form, and went about supposed to be suffering from an ordinary cold.

At last the mother took the disease, and in her case it assumed a malignant form, and she died of the disease after a few days illness. It was then discovered that the boy and girl were desquamating with Scarlet Fever, and then, of course, proper measures were taken.

This was a dairy farm, and the milk was fetched away directly after milking. No inmate of the farm touched the milk cans or milked the cows.

I was not satisfied with the usual way here they had in cooling the milk. There was no proper cooling house, and the milk in the cans was plunged into a water trough and there left to cool ; and this trough was fixed in a manure yard, which was a very objectionable arrangement ment, and had to be remedied.

There was a well on the premises, and I advised this well water, which would be very cold, to be utilized for milk cooling in a properly constructed cooling house in the farmyard, away from the house.

I think it is very objectionable for the cooling house to be connected with the homestead. The milk should never go into the farmhouse at all. It could not then get contaminated by the existence of any disease in the house, and it would not be necessary, under proper regulations, to interfere with the sale of milk, even when infectious disease existed.

In the case of the death of this poor woman, I advised the entire service at the interment to be conducted in the Churchyard, and this was done, so that no danger should exist to the regular worshippers at the Church on the Sabbath, by reason of the presence of the mourners and friends from an infected house occupying the seats in Church, as at an ordinary funeral.

Three cases of Fever occurred at Over Lane, at two houses situate in the Parish of Denby. They were removed to Hospital, where one of them, a child $2\frac{1}{2}$ years old, died.

The houses are part of a block of modern built stone houses, but the water supply is from shallow wells sunk in the cultivated gardens, and not far from the entrance doors at the back of the houses.

The Belper water mains pass the houses in front, and I have advised that some arrangement be made in reference to the water supply.

A young man had the disease at Alderwasley, and went to Hospital. I think its history could be traced to Ambergate, where the disease seemed to have assumed an epidemic form. The house he lived in was quite sanitary and very isolated.

A case at Allestree seemed to point to some infection from Derby. The boy was well nursed, and isolated in a good sized farmhouse. The farm was a grazing farm, and the household arrangements were very satisfactory.

A young woman went to Hospital with Scarlet Fever from Pentrich,

and the history of the case was one of two probabilities. She had been to Ripley Fair (where I had distinctly traced two or three cases in my Urban District), and there had been a visitor from the neighbourhood of Barnsley, where Scarlet Fever existed.

The Pentrich schoolmistress had two rooms in the same house, so it was quite necessary the case should at once be removed to Hospital, and this was done.

At Shottle Gate three cases occurred in two separate houses, and all were removed to Hospital. One of these houses was situate in the Parish of Duffield and the other in Hazlewood. The history here seemed to be as follows :

There had been a recent Measles epidemic in this locality, and a girl, 9 years of age, was supposed to have had it, and she, like many others, had no medical attendant. When she was considered fit to go out, she went about the place and played and mixed up with other children, till somebody thought they saw her skin peeling, and when these three cases of Scarlet Fever broke out I was told of the case, and went to the house to examine this girl, and I found her really in the desquamative stage of Scarlet Fever. Proper precautions were taken, and she was ordered to stay in the house for at least a fortnight.

Her sister had gone to work every day at Belper, and she was advised to stay at home for a time.

At a cottage at Windley, four cases of Scarlet Fever occurred, the father and three children.

The father was at once taken to Hospital. It appeared two of the children had been poorly, but not thought to be ill enough to require a doctor, and when medical aid was called to the father he found these two children desquamating.

One of these children, a girl of six years of age, had been going to school all the time. She was said to have a bad cold, but really had Scarlet Fever. The other child, a baby eight months old, took the disease a few days after the father went to the Hospital.

I should say the father caught the disease from the two children, who were supposed to be suffering from a bad cold.

The Water Supply here was from a dip well, lined with dry brick, and what was called the Wash-house had a copper in it for its legitimate purposes, but it also formed the coal house, and in one corner of the same place was the privy.

At Hazlewood, in one of a row of five houses, two Scarlet Fever cases occurred, aged eight and nine years respectively.

There is no drinking water to these houses, and the tenants fetch water from a spring or spouting some 200 or 300 yards away, down a steep hill, which makes it very laborious bringing the water back again,

so much so that the tenants naturally avoid general cleaning more than they would do if water was obtained with less difficulty and labour.

There is a well sunk on these premises, but the tenants say it is not drinkable.

The well itself is covered over with heavy boarding, and is not made use of in any way. I think if it was properly put in order, and a pump put down, the water would enable the tenants to clean all their surroundings and flush the drains. The population here is 28 persons, and the houses are of modern construction.

At Duffield the case of a young girl, 11 years of age, came from a school a considerable distance off, and in two or three days began to be ill. The impression was that she had caught the disease by railway travelling, but I think the school was the more probable, as the incubative period appeared too short to connect it with the railway travelling. The premises were fairly sanitary, except a nuisance from an open ashpit.

A girl, 10 years old, had a mild attack of the disease at Holloway, and I fancied the history might be traced to a visit to Cromford, as there were cases of Scarlet Fever in the village at the time.

The position of this house, on the lower slope of a hill, made the approach to the closet in the garden very awkward. After rainfall, pools of water stood about and flooded the place, but I could not see how it could be altered.

Three cases occurred at a house in Duffield, without any history, one 13 years, one 15 years, the other 3½ years old. Had not been from home, and had no visitors. House and premises very clean and satisfactory, except open ashpit, and closet accommodation might be improved.

Another case occurred at the row of houses in the Parish of Hazlewood, where two other cases had been removed to Hospital. In this case a young married woman took the disease, and suffered from Scarlet Fever during her accouchement. She was in a very critical condition for some time, and died of Puerperal complications.

The insanitary state of the premises was, of course, afterwards remedied.

There were 56 cases of Scarlet Fever during the year, and three of these were fatal.

I think the type of Scarlet Fever has become altogether modified. It is only rare that in these days it puts on a malignant form.

Sanitary supervision has undoubtedly had considerable influence on the disease. The average mortality is somewhere about 2 per cent., but it is, of course, more fatal in children under one year of age, in fact about 13 per cent.

The greatest number of cases generally occur between the ages of 5 and 10 years.

If everybody took the proper and necessary precautions, and realised the dangerous sequelæ of the disease, there would be less neighbouring and gossip when it exists, and eventually we might possibly stamp out the disease. It seems impossible to convince some people of the dangers that often come after the disease, and in very many cases it is wantonly spread by persons going in and out because of Scarlet Fever existing in the house, so that the number of visitors to the infected house is doubled to what it is in ordinary, when no disease exists.

The highly infective discharges from the mucous membrane of the ears, nose, &c., is thought nothing of, though I believe it is of more importance than the "peeling" or desquamation of the skin.

Diphtheria. A young girl, aged 16 years, took this disease at Darley Abbey. No history could be obtained. She worked at the Mills in the village, and had only been as far as Derby occasionally.

The premises where she lived are of the usual type common to the village, wash-down closets and weekly removal of house refuse. She was removed to the Royal Infirmary.

This was the only case notified in 1902.

Great attention is now given to the drainage of cottages. Whether there be a system of sewers or not, all drains inside the house (slop stones, &c.,) are cut off from all connection with the ordinary drain, even if it only empties in a cesspool in the garden, and some cottagers do rinse down their drains with some diluted disinfectant. There is still too much emptying of house slops on the garden soil, close up to the doors of the houses.

There are of course other recognised causes of Diphtheria, but this one is and can be dealt with, and is also one means of keeping the cottage surroundings healthy.

Typhoid Fever. A case of this disease occurred at South Wingfield. A married man, 38 years of age, appeared to have had what neighbours called a "hackling" cough for some weeks.

He had lived in a row of houses situate at the bottom of the village, and not noted for their sanitary condition.

He ultimately went in lodgings at one of a block of houses, known as New Wingfield, and while there a Doctor was called in, and after about a week's attendance he was notified as having Typhoid Fever.

He was removed to Hospital, and died there the next day with Pneumonia.

The Water supply at these new houses at Wingfield is from Shallow Wells, sunk a few feet from the back door of the houses, and I took a sample of water from here and found it highly charged with organic matter.

The new Water Mains pass this property, and I have advised the water to be laid on to these two blocks.

Another case occurred at Lower Kilbourne.

A young man, 28 years of age, a carter at a Stone Quarry in the neighbourhood, took the disease, and after two or three weeks' illness, died of the disease, with Intestinal Hemorrhage.

There are several houses in the block. They drain into a brook or ditch at bottom of their gardens, which also receives the drainage of a good many houses above them in another parish, and the water then flows on in the direction of Derby, through one or two other villages.

The drinking water is from a pump in the garden. I took a sample of water, and found it contained Organic Ammonia.

At present this water supply cannot be much improved.

The Parishes of Kilbourne and Denby have been included in a Water Scheme, which has fallen through as being impracticable, and now they must wait for the Ilkeston and Heanor Scheme which passes somewhere near these parishes. Both are sadly in need of drinking water.

These two fatal cases of this disease were the only cases which occurred in the whole District, and in the South Wingfield case, the man had been in a low state of health for some weeks, and had suffered from a bad cough. He had only recently left his own cottage, and had gone into lodgings at one of a recently erected block of houses, which had not then been connected with water mains just completed.

The water here was from a shallow dip well, close to the back door of these houses, and had no proper protection, except an ordinary covering, on a level with the brick paving of the yard.

Although I examined this water supply, and found Organic Ammonia, I hardly think the man had been here long enough for the water to have caused the disease.

Recent investigations of Typhoid Fever have proved that there are other causes which produce the disease besides contaminated water.

The Typhoid bacillus will exist a considerable period of time in a soil polluted with sewage matter, and if this soil becomes dried with the heat of the sun, it gets blown about by the wind, and may infect various articles of food and milk, and other consumable articles.

The common domestic fly can do great mischief also by disseminating this disease. Specific excreta, and other polluted material, flies are very fond of alighting upon, and feeding or resting, and it is found that they can carry this Fever bacillus on their legs, head, and wings, and when they get into the pantry or larder, they can deposit this material in the milk basin, on the dishes containing food of all sorts, and the sugar jar is a very favourite resort for this troublesome insect.

Hence these places where eatables are kept should be far removed from

heaps of refuse and accumulations of other filth, especially from the old middens (which are now being done away with as fast as we can).

Ordinary soils, which get polluted by leaky cesspools, or surface pollution, produce such a condition of things which favours the development of Enteric or Typhoid Fever.

It has been said that the many rainy days of the year 1902 has had some influence in washing away some of the probable products of this disease, and it may be so. We all have experienced the change in the atmosphere produced by heavy storms of rain, and have recognised its purity by its odour, and have felt its exhilarating effects, and this is more especially so where there is density of population.

At any rate the healthiness of the year 1902 is generally admitted.

Puerperal Fever. A young married woman was attended in her accouchement by the trained village nurse, and went on favourably for about eight or nine days, and then developed puerperal mischief, and a Doctor was called in a fortnight afterwards. Nothing could be discovered to account for her condition.

The water supply and the drainage to the block of cottages were of the usual village type, and were fairly satisfactory.

Diarrhœa. There were four deaths from this class of disease, all of very young children.

Three of these deaths were those of children under one year old, and were probably due to the irritation of teething, helped on by some errors of diet.

I could not discover anything to justify me in looking upon them as the result of insanitary surroundings, but at the same time I have reckoned them as part of the 15 cases of death from the class of Zymotic diseases.

Chicken Pox. Four cases of this disease broke out at a roadside public house at Oakerthorpe, in the month of June.

Small Pox was then appearing in parts of Derbyshire, and I had already had one case in the Ripley Urban District, which naturally created some alarm.

The Medical Attendant on these cases asked me to meet him and see the four children with him, so that no possible error of diagnosis should occur. We examined the patients, and came to the clear conclusion that we had to deal with Chicken Pox.

This disease is not notifiable, but it is clearly contagious, and I believe very closely related to Small Pox. I noticed in this case the baby, four months old, had not then been vaccinated, and the Chicken Pox eruption was much more severe than in the other three children, all of whom had been vaccinated.

DR. BARWISE also saw the cases, and we agreed that Chicken Pox was the disease we were dealing with.

Tubercular Diseases. There were 11 deaths from Phthisis and 16 from other class of Tubercular diseases, making a total of 27, which is equal to a Death Rate from this class of disease of 1·18 per 1000 in the Rural District for the year 1902.

This class of disease is now recognised as an Infectious disease, though not in the same sense as we speak of infection, such as Measles and Scarlet Fever.

It may be produced by regular personal contact, but this would be chiefly from the "spray" produced by violent coughing being mixed up in the general atmosphere of the room which the patient occupies. The dried up sputa might also be mixed up with dust accumulation on shelves or in the corners of the room, and this might be inhaled by persons who cleaned or dusted the room.

In these cases the room should be dusted with a damp cloth, which would take up the dusty material, instead of spreading about the air of the room.

Some persons advocate notification of this disease. I cannot see my way to it, as it would certainly be cruel to think of isolation.

It would make what we call Consumption much more terrible than it is already, and it would not tend to give the sufferer much hope or confidence, or even fortitude to battle with the disease.

Cancer. This is a terrible disease, and is thought to be on the *increase*. With my limited knowledge of the matter, I am inclined to think that the increase in the number of cases is the result of more intelligent diagnosis of the disease.

The *increase* seems to be in the internal organs, and this fact gives rise to the idea that it may be the result of some saturated condition of soil with various polluted materials, which promotes the prolific growth of various organisms, and thus produces excessive contamination of drinking water.

If this be so, one may reasonably hope for a diminution of the number of victims to the disease, because such conditions are not beyond the powers of those who administer the various Public Health Acts.

Some persons advocate Notification of the disease, improved sanitation, Disinfection of the houses, Cremation of the bodies, the Burning of the *Dejecta*, and the Cancer dressings, scrupulous personal cleanliness, avoidance of taking food with *unwashed hands*, the use of the bath, open air exercise, moderation of diet, and a general observance of the well-known laws of health.

It will be remembered that His Majesty the King recently told a deputation which waited upon him in relation to this subject,—"That "the man who discovered its origin, and its cure and prevention, would "deserve a statue erected to him in every capital of the world."

The following are the deaths from Cancer registered in the Parishes named :

Duffield	...	Female, 84 years	...	Cancer of breast.	
,,	...	Male, 79 ,,	...	,,	thumb.
,,	...	Male, 69 ,,	...	,,	rectum.
Kilbourne	...	Female, 46 ,,	...	,,	uterus.
Crich	...	Male, 49 ,,	...	,,	stomach.
Pentrich	...	Female, 58 ,,	...	,,	uterus.
Hazlewood	...	Male, 73 ,,	...	,,	prostate gland.
Darley Abbey	...	Female, 49 ,,	...	,,	uterus.
Smalley	...	Male, 60 ,,	...	,,	rectum.
Milford	...	Male, 64 ,,	...	,,	neck.
Shottle	...	Female, 46 ,,	...	,,	uterus.
South Wingfield		Male, 61 ,,	...	,,	liver.

INQUEST CASES.

South Wingfield.	Male, 27 years.	Suicide by drowning.
,,	Male, 33 years.	Colliery accident.
,,	Male, 10 months.	Accidentally suffocated in bed.
Mapperley.	Male, 59 years.	Colliery accident.
,,	Female, 30 years.	Heart failure.
Smalley.	Male, 71 years.	Syncope.
,,	Female, 53 years.	Accidentally suffocated while under influence of drink.
Quarndon.	Female, 40 years.	Gangrene of the bowels.
Duffield.	Male, 42 years.	Suicide by drowning.
Holbrook.	Male, 65 years.	Suicide by hanging.
Allestree.	Male, 30 years.	Suddenly. Natural causes.
Turnditch.	Male, 60 years.	Death by drowning.
Idridgehay.	Male, 34 years.	Sudden failure of the heart.
Milford.	Male, 24 years.	Found drowned in the Derwent.
Horsley Woodhouse.	Female, 6 months.	Accidentally suffocated.
Milford.	Male, 47 years.	Accidentally shot himself.

UNCERTIFIED DEATHS.

The causes of death attached to these cases are the result of the enquiries made by the Registrar, and are presumed to be the cause of death.

Crich.	Female, 81 years.	Old age.
,,	Male, 9 months.	Convulsions.
,,	Female, 73 years.	Heart Failure.
,,	Female, 2 hours.	Convulsions.
,,	Male, 9 months.	,,
Denby.	Female, 10 months.	,,
Duffield.	Male, 13 days.	,,
Horsley Woodhouse.	Female, 5 weeks.	Convulsions.
Morley.	Male, 4 months.	Convulsions.
Milford.	Male, 2 years.	,,
Lea	Male, 50 years.	Heart disease.
Idridgehay.	Male, 9 months.	Teething.
Shottle.	Male, 2 months.	Convulsions.

Deaths from Zymotic Diseases in 1902.

Denby.	Male, 10 years.	Scarlet Fever (died in Hospital).
,,	Male, 2 years.	,, ,,
Horsley Woodhouse.	Female, 3 years.	,, ,,
South Wingfield.	Male, 39 years.	Typhoid Fever ,,
Turnditch.	Female, 20 months.	Diarrhœa.
Shottle.	Female, 5 months.	,,
Hazlewood.	Male, 25 days.	,,
South Wingfield.	Male, 6 months.	,,
,,	Female, 7 months.	,,
Horsley Woodhouse.	Female, 6 years.	Measles.
Milford	Female, 49 years.	Malignant Scarlet Fever.
South Wingfield.	Female, 5 months.	Whooping Cough.
Kilbourne.	Male, 27 years.	Typhoid Fever.
Smalley.	Male, 7 months.	Measles.
Kilbourne.	Male, 7 months.	Whooping Cough.

The Death Rate from Zymotic Disease in the Belper Rural District for 1902 is ·66 per 1000.

The Zymotic Death Rate for *Rural* England and Wales for the year 1902 is 1·14 per 1000.

ANTHRAX.

On April 5th I had notice of a case of this disease.

A farmer and butcher had been admitted to the Derby Royal Infirmary with Anthrax, and he was in a dangerous state.

He lived at Milford, and had slaughtered or skinned a beast at one farm, and at another farm a week-old calf, which died on the farm a day or two after, was taken to his own place at Milford, and there he

skinned it. It appeared he had a scratch or some abrasion of the arm for some days, while still going on with his work as a butcher.

Dr. Allen, of Belper, attended him, and diagnosed Anthrax, and as he was in a dangerous condition, he was removed to Derby Infirmary, where the surgical staff confirmed the diagnosis and operated on the diseased arm.

I believe it was also still further confirmed by the bacteriological examination of the man's blood. Eventually the man recovered, though he had marked symptoms and malignant pustule.

Nothing was ever made out where the Anthrax existed. That it did exist is beyond doubt, as the Anthrax bacillus was discovered and to be seen. Some persons seemed to doubt if it was really Anthrax simply because the man recovered.

All cases are not fatal, as I myself have seen in the wards in Yorkshire.

What some people term Black Water or Black Leg, is closely allied to Anthrax, in fact, probably is one particular form of the disease, which may be local or general.

In this case we may term it External Anthrax, and most likely the cutting of the malignant pustule of External or Local Anthrax saved the man's life.

Number of Deaths at the Various Age Periods.

Under 1 year	77	3·38 per thousand.	
1 and under 5 years	21	·93	,,
5 ,, 15 ,,	7	·31	,,
15 ,, 25 ,,	11	·48	,,
25 ,, 65 ,,	70	3·08	,,
65 years and upwards	106	4·66	,,

Estimated Population, 22,726. Death Rate, 12·84 per thousand.

Total deaths from all causes, 292.

The deaths between the ages of 15 years and 65 years, the generally accepted working period of life, amounted to about 27 per cent.

Deaths at 65 years and upwards equalled about 36 per cent. The deaths under one year were 26 per cent. of the whole number.

Infantile Death Rate.

I have so frequently expressed my opinion on this subject that I can add nothing more.

The preservation of infant life is of course very important, but I am convinced it is more of a social question than one for the Sanitarian. Deaths of children during the *first year of their existence* is largely a question of parental management and care. Among some of its causes may be put wanton neglect, exposure to cold, errors of diet, and a constant resort to drugging and all sorts of so-called remedies to render the child less troublesome, which gradually produces a wasting of the body by checking all the processes of nutrition, and so terminating its existence.

The Infantile Death Rate for *Rural* England and Wales is 119 per thousand.

The Rate for the Belper Rural District for 1902 is 117 per thousand.

The Infantile Death Rate for the year 1901 was 131 per thousand.

The General Death Rate from all causes in *Rural* England and Wales for the year 1902 is 15·3 per thousand.

The Total Death Rate from all causes in the Belper Rural District for 1902 is 12·84 per thousand.

The deaths occurred in the following quarters of the year :

March quarter	...	84
June quarter	...	64
September quarter	...	70
December quarter	...	74
Total	...	292

BIRTHS.

352 boys and 306 girls were born during the year, making a total of 568.

This gives a Total Birth Rate of 28·95 per thousand.

The *Natural Increase* of the population of the District during the year 1902 is 366 persons.

The Births were registered in the following quarters of the year :

March quarter	...	160
June quarter	...	161
September quarter	...	181
December quarter	...	156
Total	...	658

The Birth Rate of *Rural* England and Wales is 27·4 per thousand.

The Birth Rate of the Belper Rural District for 1902 is 28·95 per thousand.

Alderwasley.

Area in acres, 3156.

1901 census population, 348. 1902, estimated population, 350.

Births 8. Deaths 1. Cause of death, Heart disease.

Birth Rate, 22·55 per thousand. Death Rate, 2·85 per thousand.

Allestree.

Area in acres, 1163.

1901 census population, 589. 1902, estimated population, 592.

Births 14. Birth Rate, 23·64 per thousand.

Deaths 3. Death Rate, 5·06 per thousand.

Causes of Death—	Convulsions	...	1
	Syncope (Inquest)	...	1
	Senile Decay	...	1

Ashleyhay.

Area in acres, 1393.

1901 census population, 182. 1902, estimated population, 184.

Births 7. Birth Rate, 38·04 per thousand.

Deaths 3. Death Rate, 16·30 per thousand.

Causes of Death—	Pneumonia	...	1
	Heart Disease	...	1
	Debility from birth		1

Crich.

Area in acres, 3750.

1901 census population, 3063. 1902, estimated population, 3085.

Births 87. Birth Rate, 28·20 per thousand.

Deaths 38. Death Rate, 12·31 per thousand.

Causes of Death—		
	Influenza ...	2
	Phthisis ...	3
	Other Tubercular Diseases	2
	Cancer ...	2
	Bronchitis ...	2
	Pneumonia ...	3
	Premature Birth ...	1
	Heart Disease ...	5
	Accidents ...	1
	Laryngitis ...	1
	Spinal Disease ...	1
	Apoplexy ...	3
	Old Age ...	5
	Diseases of Parturition	1
	Urinary Disease ...	1
	Syncope ...	1
	Uncertified ...	4
		38

Darley Abbey.

Area in acres, 1597.

1901 census population, 914, 1902, estimated population, 920.

Births. 15. Birth Rate, 16·30 per thousand.

Deaths, 10. Death Rate, 10·86 per thousand.

Causes of Death—		
	Tubercular Disease...	1
	Cancer ...	1
	Heart Disease ...	2
	Apoplexy ...	2
	Old Age ...	2
	Convulsions ...	1
	Disease of the Lungs	1
		10

Denby.

Area in acres, 2437.

1901 census population, 1731. 1902, estimated population, 1760.

Births, 50. Birth Rate, 28·40 per thousand.

Deaths 18. Death Rate, 12·27 per thousand.

Causes of Death—		
	Scarlet Fever ...	2
	Cancer ...	1
	Paralysis ...	2
	Apoplexy ...	1
	Bronchitis ...	2
	Pneumonia ...	2
	Heart Disease ...	1
	Accidents ...	1
	Debility from Birth	2
	Atrophy ...	1
	Old Age ...	1
	Uncertified ...	2
		18

Dethick, Lea, and Holloway.

Area in acres, 1820.

1901 census population, 1311. 1902, estimated population, 1324.

Births 38. Birth Rate, 28·70 per thousand.

Deaths, 15. Death Rate, 11·32 per thousand.

Causes of Death—		
	Tubercular Disease...	1
	Pneumonia ...	1
	Cirrhosis of the Liver	1
	Heart Disease ...	3
	Paralysis ...	1
	Renal Disease ...	1
	Apoplexy ...	3
	Perforating Ulcer of Foot	1
	Old Age ...	1
	Dropsy ...	1
	Uncertified ...	1
		15

Duffield.

Area in acres, 3421 (includes Milford).

1901 census population, 1959
1902, estimated population, 1980 } not Milford.

Births 46. Birth Rate, 23·23 per thousand.

Deaths 16. Death Rate, 8·08 per thousand.

Causes of Death—		
	Pneumonia ...	2
	Cancer ...	3
	Bronchitis ...	1
	Asthma ...	1
	Whooping Cough ...	1
	Heart Disease ...	2
	Suicide ...	1
	Old Age ...	1
	Ovarian Disease ...	1
	Uncertified ...	1
	Renal Disease ...	1
	Brain Disease ...	1
		16

Hazlewood.

Area in acres, 1232.

1901 census population, 406. 1902, estimated population, 402.

Births 3. Birth Rate, 7·46 per thousand.

Deaths 8. Death Rate, 19·90 per thousand.

Causes of Death—		
	Diarrhœa ...	1
	Phthisis ...	1
	Cancer ...	1
	Bronchitis ...	1
	Pneumonia ...	1
	Heart disease ...	1
	Apoplexy ...	1
	Disease of the Bowels	1
		8

Holbrook.

Area in acres, 887.

1901 census population, 1156. 1902, estimated population, 1170.

Births 30. Birth Rate, 25·64 per thousand.

Deaths 9. Death Rate, 7·69 per thousand.

Causes of Death—		
	Bronchitis ...	2
	Pneumonia ...	1
	Suicide ...	1
	Cancer ...	1
	Disease of the Bowels	1
	Brain Disease ...	1
	Old Age ...	2
		9

Horsley.

Area in acres, 1296.

1901 census population, 314. 1902, estimated population, 320.

Births 13. Birth Rate, 40·62 per thousand.

Deaths 3. Death Rate, 9·37 per thousand.

Causes of Death—		
	Tubercular Disease...	1
	Pneumonia ...	1
	Heart Disease ...	1
		3

Horsley Woodhouse.

Area in acres, 628.

1901 census population, 1123. 1902, estimated population, 1145.

Births 45. Birth Rate, 39·30 per thousand.

Deaths 22. Death Rate, 19·21 per thousand.

Causes of Death—	Tubercular Diseases	5
	Pneumonia ...	1
	Bronchitis ...	6
	Scarlet Fever ...	1
	Cancer ...	1
	Measles ..	1
	Premature Birth ...	1
	Apoplexy ...	1
	Brain Disease ...	1
Inquest—	Accidentally suffocated	1
	Paralysis ...	1
	Laryngitis ...	1
	Old Age ...	1
		22

The Scarlet Fever case died in the Isolation Hospital.

Idridgehay.

Area in acres, 1552.

1901 census population, 266. 1902, estimated population, 272.

Births 8. Birth Rate, 29·41 per thousand.

Deaths 7. Death Rate, 25·73 per thousand.

Causes of Death—	Bronchitis ...	1
	Pneumonia ...	2
	Heart Disease ...	2
Inquest—	Heart Failure ...	1
	Bright's Disease ...	1
		7

Kedleston.

Area in acres, 959.

1901 census population, 112. 1902, estimated population, 112.

Births *Nil.*

Death 1. Death Rate, 8·92 per thousand.

The only Death was from Phthisis.

Kilbourne.

Area in acres, 905.

1901 census population, 1530. 1902, estimated population, 1556.

Births 64. Birth Rate, 41·13 per thousand.

Deaths 28. Death Rate, 17·99 per thousand.

Causes of Death—		
	Typhoid Fever ...	1
	Whooping Cough ...	1
	Phthisis ...	1
	Bronchitis ...	6
	Pneumonia ...	1
	Premature Birth ...	2
	Heart Disease ...	2
	Disease of the Bowels	2
	Old Age ...	7
	Cancer ...	1
	Brain Disease ...	1
	Apoplexy ...	3
		28

Kirk Langley.

Area in acres, 2552.

1901 census population, 531. 1902, estimated population, 538.

Births 10. Birth Rate, 18·58 per thousand.

Deaths 4. Death Rate. 7·43 per thousand.

Causes of Death—		
	Phthisis ...	1
	Other Tubercular Diseases	1
	Heart Disease ...	1
	Old Age ...	1
		4

Mackworth.

Area in acres, 1407.

1901 census population, 234. 1902, estimated population, 238.

Births 5. Birth Rate, 21·00 per thousand.
Deaths *Nil.*

Mapperley.

Area in acres, 982.
1901 census population, 480. 1902, estimated population, 490.
Births 13. Birth Rate, 26·53 per thousand.
Deaths 8. Death Rate, 16·32 per thousand.

Causes of Death—			
	Bronchitis	...	2
	Heart Disease	...	3
	Accidents	...	1
	Brain Disease	...	1
	Convulsions	...	1
			8

Markeaton.

Area in acres, 1867.
1901 census population, 199. 1902, estimated population, 202.
Births 6. Birth Rate, 29·70 per thousand.
Deaths 3. Death Rate, 14·85 per thousand.

Causes of Death—			
	Heart disease	...	1
	Premature Birth	...	2
			3

Milford.

Area in acres (see Duffield).
1901 census population, 1090 1902, estimated population, 1096.
Births, 30. Birth Rate, 27·37 per thousand.

Deaths 15. Death Rate, 13·68 per thousand.

Causes of Death—		
	Scarlet Fever ...	1
	Phthisis ...	1
	Other Tubercular Diseases	1
	Pneumonia ...	1
	Cancer ...	1
	Accidents ...	1
	Heart Disease ...	3
	Disease of Stomach	2
	Old Age ...	2
	Inquest Case ...	1
	Uncertified (Convulsions)	1
		15

The fatal case of Scarlet Fever occurred at Farnah Green.

Morley.

Area in acres, 1853.

1901 census population, 339. 1902, estimated population, 340.

Births 7. Birth Rate, 20·58 per thousand.

Deaths 3. Death Rate, 8·82 per thousand.

Causes of Death—		
	Heart Disease ...	2
	Uncertified (Convulsions)	1
		3

Pentrich.

Area in acres, 1256.

1901 census population, 291. 1902, estimated population, 294.

Births 5. Birth Rate, 17·00 per thousand.

Deaths 2. Death Rate, 6·80 per thousand.

Causes of Death—		
	Cancer ...	1
	Debility ...	1
		2

Quarndon.

Area in acres, 803.

1901 census population, 419. 1902, estimated population, 422.

Births 10. Birth Rate, 23·69 per thousand.

Deaths 5. Death Rate, 11·84 per thousand.

Causes of Death—	Phthisis ...	1
	Other Tubercular Diseases	1
	Laryngitis ...	1
	Urinary Disease ...	1
	Inquest ...	1
		5

Ravensdale Park.

Area in acres, 635.

1901 census population, 48. 1902, estimated population, 46.

Births 1. Birth Rate, 19·92 per thousand.

Deaths 2. Death Rate, 43·47 per thousand.

Causes of Death—	Diabetes ...	1
	Premature Parturition	1
	Total ...	2

Shottle and Postern.

Area in acres, 3808.

1901 census population, 414, 1902, estimated population, 416.

Births. 18. Birth Rate, 36·05 per thousand.

Deaths, 9. Death Rate, 21·63 per thousand.

Causes of Death—	Cancer ...	1
	Tubercular Disease...	1
	Debility ...	2
	Disease of the Liver	1
	Hemiplegia ...	1
	Bronchitis ...	1
	Premature Birth ...	1
	Uncertified (Convulsions)	1
		9

Smalley.

Area in acres, 1718.

1901 census population, 1062. 1902, estimated population, 1080.

Births 37. Birth Rate, 34·25 per thousand.

Deaths, 16. Death Rate, 14·81 per thousand.

Causes of Death—	Measles ...	1
	Phthisis ...	1
	Other Tubercular Diseases	2
	Cancer ...	1
	Paralysis ...	1
	Brain Disease ...	1
	Heart Disease ...	1
	Zymotic Enteritis ...	2
	Debility ...	3
	Bright's Disease ...	1
	Syncope (Inquest) ...	1
Inquest—	Accidentally suffocated	1
		16

South Wingfield.

Area in acres, 3364.

1901 census population, 1571. 1902, estimated population, 1594.

Births 75. Birth Rate, 47·05 per thousand.

Deaths 31. Death Rate, 19·44 per thousand.

Causes of Death—		
	Whooping Cough ...	1
	Diarrhœa ...	2
	Typhoid Pneumonia	1
	Phthisis ...	1
	Other Tubercular Diseases	1
	Influenza ...	1
	Cancer ...	1
	Bronchitis ...	1
	Pneumonia ...	2
	Heart Disease ...	4
	Brain Disease ...	1
	Disease of the Stomach	2
	Peritonitis ...	1
	Debility ...	3
	Urinary Disease ...	1
	Premature Birth ...	1
	Child Birth ...	1
	Suicide ...	1
	Accidental Fall ...	1
	Colliery Accident ...	1
	Accidentally Suffocated in Bed	1
	Old Age ...	2
		31

The case of Typhoid Pneumonia died in the Isolation Hospital at Belper.

Turnditch.

Area in acres, 812.

1901 census population, 237. 1902, estimated population, 238.

Births 7. Birth Rate, 29·31 per thousand.

Deaths 6. Death Rate, 25·21 per thousand.

Causes of Death—		
	Diarrhœa ...	1
	Premature Birth ...	1
	Inquest—Death by Drowning	1
	Paralysis ...	1
	Old Age ...	1
	Debility ...	1
		6

Weston Underwood.

Area in acres, 3177.

1901 census population, 372. 1902, estimated population, 374.

Births 9. Birth Rate, 24·6 per thousand.

Deaths 2. Death Rate, 5·34 per thousand.

Causes of Death—	Pneumonia	...	1
	Debility	...	1
			2

Windley.

Area in acres, 1159.

1901 census population, 186. 1902, estimated population, 186.

Births 2. Birth Rate, 10·75 per thousand.

Deaths 3. Death Rate, 16·12 per thousand.

Causes of Death—	Influenza	...	1
	Bronchitis	...	1
	Heart Disease	...	1
			3

Summary for 1902.

Population, 22,756.

Zymotic Disease	·66	per thousand.
Typhoid and Diarrhœa ...	·26	,,
Phthisis and Tubercular Diseases...	1·66	,,
Phthisis	·48	,,
Bronchitis	1·14	,,
Pneumonia	·70	,,
Heart Disease	1·58	,,
Male Deaths	7·87	,,
Female Deaths	4·97	,,

Deaths under 1 year	...	26 per cent.
„ 65 years and upwards		36 „
„ 15 years to 65 years		27 „
„ under 5 years	...	33 „

Births, 1902.

PARISH.	Boys.	Girls.	Total.
Alderwasley	6	2	8
Allestree	6	8	14
Ashleyhay	2	5	7
Crich	49	38	87
Darley Abbey	6	9	15
Denby	25	25	50
Duffield	28	18	46
Dethick, Lea, and Holloway ...	22	16	38
Hazlewood	1	2	3
Holbrook	14	16	30
Horsley	5	8	13
Horsley Woodhouse... ...	24	21	45
Idridgehay	4	4	8
Kedleston	...	...	...
Kilbourne	38	26	64
Kirk Langley	5	5	10
Mackworth	3	2	5
Mapperley	5	8	13
Markeaton	4	2	6
Milford	15	15	30
Morley	6	1	7
Pentrich	3	2	5
Quarndon	8	2	10
Ravensdale Park	...	1	1
Shottle and Postern	6	7	13
Smalley	16	21	37
South Wingfield	41	34	75
Turnditch	5	2	7
Weston Underwood	4	5	9
Windley	1	1	2
	352	306	658

Deaths, 1902.

PARISH.	Males.	Females.	Total.
Alderwasley	...	1	1
Allestree	3	...	3
Ashleyhay	2	1	3
Crich	19	19	38
Darley Abbey	8	2	10
Dethick, Lea, and Holloway ...	9	6	15
Denby	12	6	18
Duffield	7	9	16
Hazlewood	5	3	8
Holbrook	8	1	9
Horsley	2	1	3
Horsley Woodhouse	7	15	22
Idridgehay	8	...	8
Kedleston	1	...	1
Kilbourne	18	10	28
Kirk Langley	3	1	4
Mackworth	...	...	...
Mapperley	4	4	8
Markeaton	2	1	3
Milford	11	4	15
Morley	3	...	3
Pentrich	...	2	2
Quarndon	4	1	5
Ravensdale Park	...	2	2
Shottle and Postern	4	5	9
Smalley	12	4	16
South Wingfield	21	10	31
Turnditch	3	3	6
Weston Underwood	1	1	2
Windley	2	1	3
	179	113	292

School Closing.

The Schools at Hazlewood were closed on account of Measles epidemic for one month, from September 8th to October 6th. About 50 per cent. of the scholars were absent on the 8th day of September.

The Measles was prevalent at Shottle Gate, Blackbrook, Chevin Side, and Hazlewood. Scholars from these localities attend this School.

This School was also closed the whole of the month of December, 1902, on account of Scarlet Fever. The disease was principally at Shottle Gate and Farnah Green, and quite a panic existed in consequence of one death from a malignant Scarlet Fever.

The Schools at Morley were closed for one month in October for Measles epidemic.

The Smalley Schools were closed for three weeks on account of the prevalence of Measles.

The Duffield Schools were also closed on account of Measles for one month, from November 3rd to December 1st.

In all these cases the Superintendents of the various Sabbath Schools kindly closed for the same period as the Day Schools, for which the Rural District Council thank them.

Public Works.

During the past year the Parishes of Holbrook and Mapperley have had laid down a complete system of sewers.

There are also other Parishes which require sewering, but it has been thought advisable to put off the work till there is a better water supply which will supply the Parishes of Kilbourne, Denby, Horsley Woodhouse, Smalley, and Horsley.

A water supply is in hand for the Parish of Turnditch.

The scarcity of good water at the Parish of Mackworth is awaiting the Derwent Water Scheme. The Bowbridge Spring in the same Parish, from whence a supply of water was thought to be sufficient, is found to be very scarce in times of drought, and is only sufficient at such times for an adjoining farm.

The Parish of Mackworth could scarcely bear the cost of an expensive water scheme, but it really requires it.

The water supply of the Parish of Duffield is being supplemented by additional storage.

The Parishes of Dethick, Lea, and Holloway, Crich, Pentrich, and South Wingfield have now a complete water supply system, and though expensive, the inhabitants recognize the advantages which they have wanted for some years past.

Cowsheds and Dairies.

These are regularly inspected and improved where it is necessary and can be done.

Each case is dealt with on its own merits. It is found difficult and unworkable to lay down hard and fast regulations in a Rural District like Belper.

Your officers are very rigid about the cleanliness of all Dairies, and are particular to remove every possible contamination of the water supply on the farms, and on the whole are satisfied with the gradual progress being made.

Old cowhouses are very difficult to adapt to any alterations in conformity with new laws, but improvements are effected by degrees, and the Dairy Farmers quite realize the importance of certain regulations being enforced.

Scavenging.

This is a very important element of sanitation, and the Council are gradually introducing the system into certain villages where it can be fairly carried out.

It is a great thing to remove house refuse and midden contents as frequently as possible when it can be done.

The late Sir Robert Rawlinson (who was no mean authority) once said: "The foundation of all sanitary science is scavenging, and if I "were asked what is the most important feature in sanitary science, I "again repeat 'Scavenging.' Your sewers, your drains, and your water "supplies are all secondary considerations if your scavenging is "neglected."

However pure the air surrounding a house may be, however dry the site, and however wholesome the water, that house cannot be healthy unless a system is provided to convey away from its precincts all the liquid and solid refuse before fermentation and decomposition has commenced. Not only does the atmosphere become polluted, but these accumulations of filth are the breeding grounds of very dangerous organisms. If we could see dirty air the same as we can dirty water, all these things would be quite plain to everybody.

I am not arguing that scavenging can be carried out everywhere in the district. The question of cost, the provision of a depôt or tip, and the large scattered area of some Parishes present formidable difficulties.

I am also in favour of the water closet system wherever there is a system of sewers and a proper water supply.

Section 30 of The Public Health Act gives power to deal with this matter, and it could be done by degrees when any insufficiency of privy accommodation was reported. It has been laid down that if a Special Report is made by your officers on each case, and a Special Resolution is passed by the Council on every separate case, the Court of Summary Jurisdiction cannot go behind the Report and Resolution, and can only deal with expenses after proper notice is given. Of course this would apply to houses of a certain annual value.

In scavenging, what are called ashpits are the nuisance, and cause expense. Portable receptacles are easily emptied, and in so much less time. There are ashpits which are difficult for a man to get into to empty, and it would be a good thing to refuse any New Plans which showed ashpits, especially if sunk below the ground level.

A Report by the Medical Officer of Health for Nottingham contains some interesting facts. It is well known that Nottingham is never *free* from Typhoid Fever, and statistics for the last ten years show the following results:

One case of Typhoid Fever occurred for every 120 houses that had Pail Closets.

One case of Typhoid Fever to every 37 houses with Privy Middens.

One case of Typhoid Fever to every 558 houses with Water Closets.

There were thus $3\frac{1}{2}$ times as many cases of Typhoid Fever in houses with *Privies* as there were with those which had *Pail Closets*, and $4\frac{1}{2}$ times as many Typhoid Fevers in the *Pail Closets* as there were with *Water Closets*.

At the end of the various statistical tables which accompany this Annual Report will be found the Report of Inspector Bould, which I asked him to furnish me with.

I have great pleasure in bearing my testimony to Inspector Bould as to his ability and efficiency. Without in any way wishing to disparage his predecessor who held the same office for very many years, I consider the Council has now a very excellent officer.

Although he came to us from an Urban District, he has adapted himself to the somewhat different requirements of a large Rural area, and he has made himself quite familiar with all parts of his District.

I have found him punctual, ready, and methodical, and can speak of him with confidence.

This, Gentlemen, concludes my Report for 1902, and it has been a work of some difficulty on account of having to get out some of Dr. Allen's statistics for 1901 for the purposes of comparison with the year 1902. Of course so large an area, with the particulars of 30 Parishes, entails a great deal of time and labour.

At the same time (without any direct personal interest in my opinion) I believe the arrangement for one Medical Officer of Health for the whole District to be better in every way, notwithstanding the hard work and mass of detail which has to be regularly attended to.

This is my Thirtieth year as your Officer of Health, and I only hope that your Council may continue that trust in me which they have done for so long a period.

I can only thank the Council, Chairman, and Clerk for their assistance in the carrying out of the very onerous duties which now belong to the Medical Officer of Health.

I remain, Mr. Chairman and Gentlemen,

Your obedient servant,

EDWARD GAYLOR,

Medical Officer of Health—Belper Rural, Alfreton Urban, and Ripley Urban Districts.

BELPER, *February 23rd, 1903.*

Table 1.

Vital Statistics of the Whole District during 1902 and previous years.

BELPER RURAL DISTRICT.

YEAR.	Population estimated to middle of each Year.	BIRTHS.		Deaths under 1 year of age.		Deaths at all Ages.	
		Number	Rate per 1000	Number	Rate per 1000	Number	Rate per 1000
1	2	3	4	5	6	7	8
1895	21755	701	32·00	83	113·47	358	16·13
1896	22191	691	30 80	60	85·66	275	12·28
1897	22513	657	29 43	96	146·69	327	14·03
1898	23096	658	28 29	75	104·23	298	12·19
1899	23453	657	27·62	88	132·25	317	13·09
1900	23642	608	29·45	70	122·70	321	13·10
1901	22555	672	29·48	90	134·32	287	12.21
Averages for years 1895-1901	22746	663	29·58	80	119·90	311	13·29
1902	22726	658	28 83	77	117·02	292	12·69

Area of District in acres (exclusive of area covered by water, 51,589.

Total population at all ages, 22,477.

Number of Inhabited houses, 4,529. } At Census of 1901.

Average number of persons per house, 4·96.

EDWARD GAYLOR,

Medical Officer of Health.

Table 2.

Populations, Birth Rates, and Death Rates in each Parish for year 1902.

PARISH.	Population.	Birth Rate.	Death Rate.	Mean Death Rate for 2 years.
Alderwasley	350	22·85	2·85	5·73
Allestree	592	23·64	5·06	10·16
Ashleyhay	184	38·04	16·30	16·30
Crich	3085	28·20	12·31	12·52
Darley Abbey	920	16·30	10·86	9·80
Denby	1760	28·10	12·27	11·33
Dethick, Lea, and Holloway ...	1324	28·70	11·32	11·38
Duffield	1980	23·23	8·08	11·07
Hazlewood	402	7·46	19·90	17·33
Holbrook	1170	25·64	7·69	11·85
Horsley	320	40·62	9·37	15·68
Horsley Woodhouse	1145	39·30	19·21	15·04
Idridgehay	272	29·41	25·73	25·73
Kedleston	112	...	8·92	8·92
Kilbourne	1556	41·13	17·99	15·03
Kirk Langley	538	18·58	7·43	7·48
Mackworth	238	21·00	...	6·40
Markeaton	202	29·70	14·85	7·42
Mapperley	490	26·53	16·32	16·17
Milford	1096	27·37	13·68	13·37
Morley	310	20·58	8·82	5·47
Pentrich	291	17·00	10·20	18·34
Quarndon	422	19·92	9·96	9·75
Ravensdale Park... ...	46	21·73	43·47	21·73
Shottle	416	36·05	21·63	18·06
Smalley	1080	33·94	14·67	10·35
South Wingfield	1594	47·05	19·44	20·26
Turnditch	238	29·41	25·21	20·04
Weston Underwood ...	374	24·06	5·34	5·35
Windley	186	10·75	16·12	13·37
Total ...	22736			

Table 3.

BELPER RURAL DISTRICT, 1902.

Cases of Infectious Diseases Notified during the year 1902.

PARISHES.	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Puerperal Fever.	Erysipelas.	Totals.
Alderwasley	...	1	...	...	...	1
Allestree	...	1	...	...	...	1
Crich	...	2	...	...	2	4
Darley Abbey	1	...	...	...	1	2
Denby	...	13	...	...	1	14
Duffield	...	4	...	...	...	4
Horsley Woodhouse ...	...	8	...	...	...	8
Dethick, Lea, & Holloway	...	1	...	...	1	2
Horsley	...	...	...	1	...	1
Hazlewood	...	3	...	...	...	3
Milford	...	3	...	...	...	3
Shottle	...	3	...	...	...	3
South Wingfield ...	...	2	1	...	...	3
Smalley	...	4	...	...	...	4
Pentrich	...	1	...	...	...	1
Kilbourne	...	4	1	...	...	5
Weston Underwood ...	...	1	...	...	...	1
Windley	...	5	...	...	...	5
Totals ...	1	56	2	1	5	65

Ages of Cases Notified, 1902.

Notifiable Diseases.	At all ages.	Under 1 year.	1 year and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 65 years.	65 years and upwards.
Diphtheria	1	...	...	...	1	...	...
Scarlet Fever ...	56	1	15	28	10	2	...
Typhoid Fever ...	2	...	...	...	...	2	...
Puerperal Fever ...	1	...	...	...	1	...	...
Erysipelas	5	...	...	...	...	5	...

No other Infectious Diseases were notified during the year 1902.

The Ages of Persons removed to the Isolation Hospital from the various Parishes.

PARISH.	At all ages.	Under 1 year	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 65 years.	65 years and upwards.
Alderwasley	1	...	..	...	1	...	...
Crich	2	...	...	...	2	...	...
Denby	10	...	4	6	...	..	...
Duffield	4	...	1	2	1	...	...
Hazlewood	2	...	...	2	...	...	...
Pentrich	1	...	...	...	1	...	...
Shottle	3	...	...	1	2	...	...
Smalley	3	...	2	1	...	...	...
South Wingfield ...	1	...	...	...	...	1	...
Horsley Woodhouse ...	5	...	...	4	...	1	...
Weston Underwood ...	1	...	...	1	...	...	...
Windley	2	...	...	...	1	1	...
Totals ...	35	...	7	17	8	3	...

Notifiable Diseases removed to Hospital, 1902.

PARISHES.	Scarlet Fever.	Enteric or Typhoid Fever.	Totals.
Alderwasley	1	...	1
Crich	2	...	2
Denby	10	...	10
Duffield	4	...	4
Hazlewood	2	...	2
Horsley Woodhouse	5	...	5
Pentrich	1	...	1
Shottle	3	...	3
Smalley	3	...	3
South Wingfield	...	1	1
Weston Underwood	1	...	1
Windley	2	...	2
Totals ...	34	1	35

The following 4 Deaths occurred in Hospital during the year 1902:

Horsley Woodhouse.	Female, 3 years.	Scarlet Fever.
Denby.	Male, 10 years.	Scarlet Fever.
,,	Male, 2 years.	,,
South Wingfield.	Male, 39 years.	Typhoid Fever—Pneumonia.

Table 4.

Causes of, and Ages at, Death during year 1902, in the Belper Rural District.

Causes of Death.	Deaths in or belonging to whole District at subjoined Ages.						
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
1	2	3	4	5	6	7	8
Small Pox	...	...	...	...	...	...	...
Measles	3	1	1	1	...	...	...
Scarlet Fever	3	...	1	1	...	1	...
Whooping-cough	3	3	...	...	...	...	...
Diphtheria and Membranous Croup	...	...	...	...	...	...	...
Croup	...	...	...	...	...	...	...
Fever { Typhus	...	...	...	...	...	...	...
Fever { Enteric	2	...	...	...	...	2	...
Fever { Other continued	...	...	...	...	...	...	...
Epidemic Influenza	3	...	...	...	...	1	2
Cholera	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...
Diarrhœa	4	3	1	...	...	...	...
Enteritis	2	2	...	...	...	...	...
Puerperal Fever	...	...	..	...	...	...	...
Erysipelas	...	...	...	...	..	...	...
Other septic diseases... ...	...	...	...	...	...	...	...
Phthisis	11	...	1	1	4	5	...
Other tubercular diseases . .	16	12	2	...	...	2	...
Cancer, malignant disease ...	12	...	...	...	...	7	5
Bronchitis	26	11	4	...	...	5	6
Pneumonia	16	4	3	...	1	5	3
Pleurisy	...	...	...	...	...	...	...
Other diseases of Respiratory organs	6	2	3	. .	...	1	...
Alcoholism } Cirrhosis of liver }	1	...	...	...	...	1	...
Venereal diseases	...	...	...	...	...	...	...
Premature birth	8	8	...	...	...	...	...
Diseases and accidents of parturition	2	...	...	...	...	2	...
Heart diseases	36	1	...	...	2	10	23
Accidents	9	2	...	...	...	4	3
Suicides	2	...	...	...	...	1	1
Uncertified	13	8	1	...	...	1	3
Inquests	5	...	...	...	. .	4	1
All other causes	109	20	4	4	4	18	59
All causes	292	77	21	7	11	70	106

Report of Inspector of Nuisances.

DUFFIELD, DERBY,
20th January, 1903.

TO THE CHAIRMAN AND MEMBERS OF THE BELPER RURAL DISTRICT COUNCIL.

GENTLEMEN,

I beg to present the following Report as to the work carried out by me as Inspector of Nuisances, &c.

The particulars given date only from the 5th May (the date of my actual connection with your Council) to the 31st December of the year under review.

To the Chairman and all the officers of your Council I wish to express my gratitude for the able assistance given me.

The total number of inspections (exclusive of repeat visits) is 1652.

It has been necessary to serve 262 written informal and 14 legal notices. The verbal cautions have been numerous, particularly with regard to non-removal of house refuse and excreta.

The total number of nuisances abated is 399, particulars of which are given in the Summary of Sanitary work.

As far as possible, I have visited premises where work for the abatement of nuisances was in progress, and offered my advice in such matters.

Owing to the large area of the District every drain cannot be examined before it is covered up, and often, in small matters, the work is completed when the premises are again visited.

As a result of some visits, I have found it necessary to order the work to be done over again. It is a common thing to find drains with back fall, and laid zigzag with gaping joints, and other specimens of bad

workmanship (to say nothing of material), too often the case where incompetent men are employed.

Visits to the various townships are :—

Alderwasley	4	Lea and Holloway ...	5
Allestree	5	Mapperley	3
Crich	11	Markeaton	1
Darley Abbey ...	7	Milford	7
Denby	20	Morley	1
Hazlewood	6	Muggington	1
Holbrook	8	Pentrich	2
Horsley	4	Quarndon	7
Horsley Woodhouse ...	13	Shottle and Turnditch ...	4
Idridgehay	3	Smalley	2
Kirk Langley ...	6	South Wingfield ...	14
Kilburn	23	Whatstandwell	1
Windley	2		

Duffield has received a good share of attention.

Disinfection.—Houses in which infectious disease has occurred, and also one public school, have been disinfected.

The sewers in Duffield, and sewage tanks in South Wingfield have been periodically flushed and cleansed.

Petroleum Acts and Orders—

As Inspector under the above I have visited the premises to which they apply.

Two licenses have been granted for the storage of Benzoline, and one for Carbide of Calcium.

Every precaution is taken to ensure the safety of the public.

Dairies, Cowsheds, and Milkshops Order—

The register required to be kept of all persons carrying on the trade of Cowkeeer, Dairyman, or Purveyor of Milk, is incomplete, and should be revised. Only 46 inspections have as yet been made. With few exceptions the premises were found fairly satisfactory.

Slaughterhouses—

Visits of inspection, 97.

Your Council have made application to the Local Government Board for Urban powers, and the adoption of byelaws relating to slaughter-houses.

The following shows the number of premises in each Township used for the purpose of slaughtering animals at regular periods :

Alderwasley	1	Horsley Woodhouse ...	1
Crich	3	Idridgehay	1
Denby	1	Kirk Langley	1
Dethick, Lea, & Holloway	3	Kilburn	2
Duffield	4	Milford	2
Hazlewood	1	Morley	1
Holbrook	3	Shottle Gate	1
Horsley	1	Smalley...	1
South Wingfield ...	2		

In many instances improvements are necessary. Some of the most noticeable defects are : absence of drains, offensive cesspools inside, no proper water supply, bad ventilation, no garbage or filth receptacles, slaughtering done in back kitchen attached to dwelling-house, slaughtering done in yard of private dwelling-house, lime washing not done regularly.

It is to be hoped that the Local Government Board will approve of the Byelaws submitted.

Summary of Sanitary Work.

Accumulations of refuse, etc., removed	74
Animal nuisances stopped	6
Ashbins provided	18
Ashpits repaired	1
Closets cleansed	7
„ limewashed	8
„ repaired	12
„ privies converted to pails	23
„ „ „ W.C.'s	1
„ additional provided	6
Cowsheds limewashed	3
„ lighted and ventilated	1
Dangerous chimneys repaired	6
Drains, new, provided	37
„ cesspools re-constructed	2
„ „ cleansed	1
„ trapped	93
„ relaid	3
„ unstopped	5

Drains, cut off from privy cesspools	2
„ waste pipes disconnected	14
„ removed from bakehouses	1
„ inspection chambers constructed	2
Foul ditches cleansed	1
Houses re-roofed	3
„ roofs repaired	1
„ damp coursed	1
„ ventilated	2
„ re-spouted	18
„ cleansed and purified	2
„ floors relaid	5
„ spouts repaired	15
Overcrowding stopped	2
Pumps repaired	1
Slaughter-houses limewashed	2
Urinals re-constructed	1
Water cisterns cleansed	1
„ public supply laid on	3
Yard surfaces paved	10
„ „ repaired	4
„ „ cleansed	1
Total ...	399

WM. BOULD,

(Certificated) Sanitary Inspector.

Factory and Workshops Act, 1901.

Section 131 of the Factory and Workshops Act, 1901, provides :— "Every District Council shall keep a register of all Workshops situate "within their District."

The situation of 37 workshops has been entered on the Register, and the trades carried on are :

Baking	9
Brickmaking... ...	1
Carpenters and Joiners ...	6
Dressmaking ...	3

Smiths	6
Stockingers	9
Tailors	1
Wheelwrights ...	2

Inspections made, 24.

Infringements detected.	Notices served.	Complied with.
Drains in bakehouses	2	1
Insufficient closet accommodation ...	1	—
Limewashing	7	7

The Inspector of Factories for the District has been notified when women, young persons, or children have been found in workshops.